

## CLAIMS

What is claimed is:

1. A mobile, trailer-mounted power generation system comprising:
  - a gas generator burning a hydrocarbon fuel for creation of combustion gases;
  - a free turbine operably interconnected with the gas generator to receive combustion gases and rotate a turbine shaft in response thereto;
  - an electrical generator in communication with the free turbine for the generation of electricity upon rotation of the turbine shaft;
  - a trailer body having a floor on which the gas generator, free turbine and electrical generator are mounted, end and side walls and a roof;
  - the gas generator, free turbine and electrical generator each having a longitudinal axis about which their components rotate during their operation;
  - the longitudinal axes of the gas generator, free turbine and electrical generator being longitudinally aligned along a common axis along the longitudinal extent of the floor of the trailer body;
  - the trailer body having an air inlet near one end for passage of air to the gas generator;
  - the free turbine having an exhaust for exit of the combustion gases; and
  - the trailer body having a combustion gas outlet formed in a side wall thereof for exit of the combustion gases.

2. The power generation system of claim 1 wherein the gas generator comprises a jet engine.

1 3. The power generation system of claim 1 wherein the free turbine comprises a UGT 2500  
2 turbine.

1 4. The power generation system of claim 1 wherein the free turbine comprises a FT - 4 turbine.

1 5. The power generation system of claim 1, further including an elbow member turning the flow  
2 of combustion gases from the longitudinal axis of the free turbine to exit from the gas outlet in the  
3 side wall of the trailer body.

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